

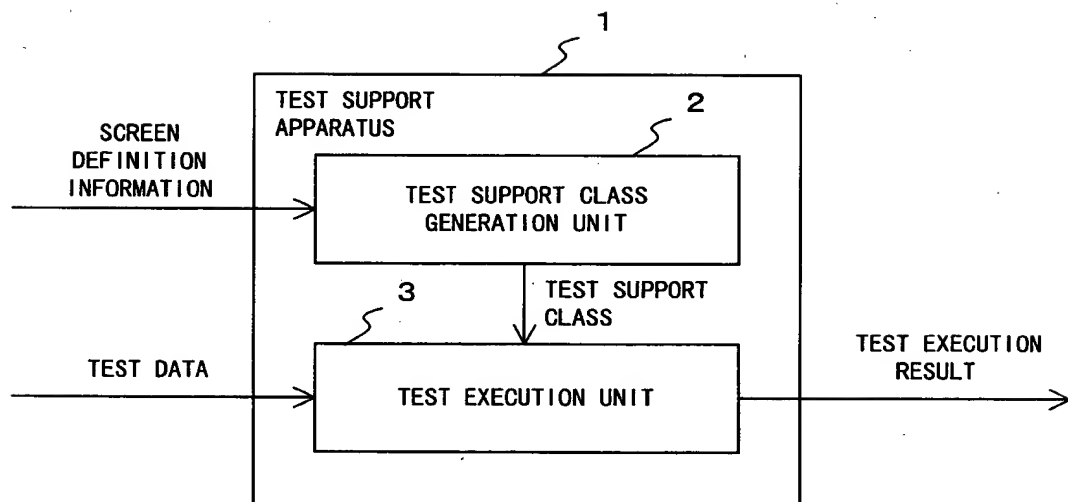
[illegible]

FIG. 1

FIG. 2

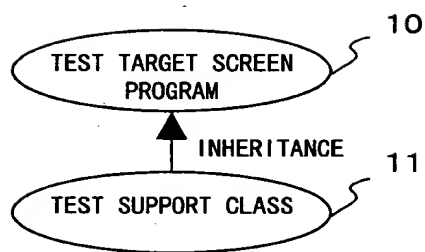


FIG. 2

The diagram consists of two concentric ovals. The inner oval is labeled "TEST TARGET SCREEN PROGRAM". The outer oval is labeled "TEST SUPPORT CLASS". A line connects the two ovals, with the label "10" near the inner oval and "11" near the outer oval. The text "ADDING TEST SUPPORT FUNCTION" is positioned between the two ovals.

```
graph TD; A([TEST TARGET SCREEN PROGRAM]) ---|10| B([TEST SUPPORT CLASS]);
```

TEST TARGET SCREEN PROGRAM

10

ADDING TEST SUPPORT FUNCTION

11

TEST SUPPORT CLASS

FIG. 3

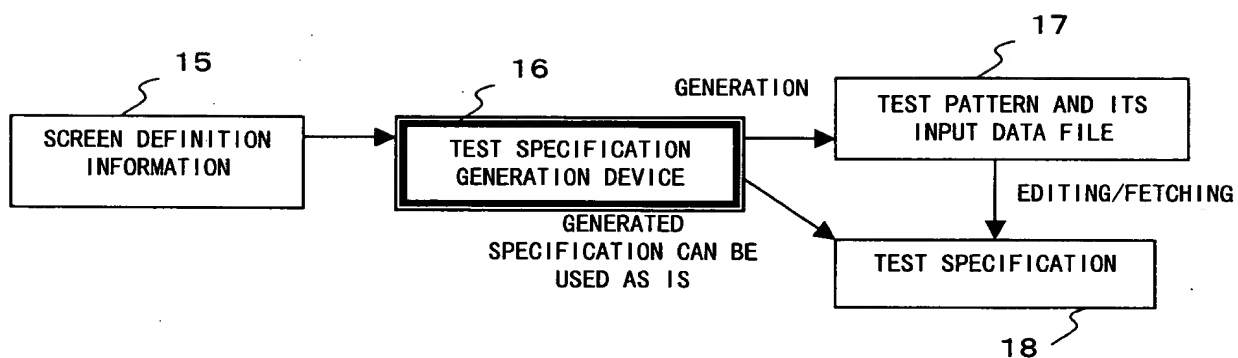


FIG. 4

```

graph LR
    15[SCREEN DEFINITION INFORMATION] --> 20[TEST SUPPORT CLASS GENERATION DEVICE]
    20 -- GENERATION --> 21[TEST SUPPORT CLASS]
  
```

FIG. 5

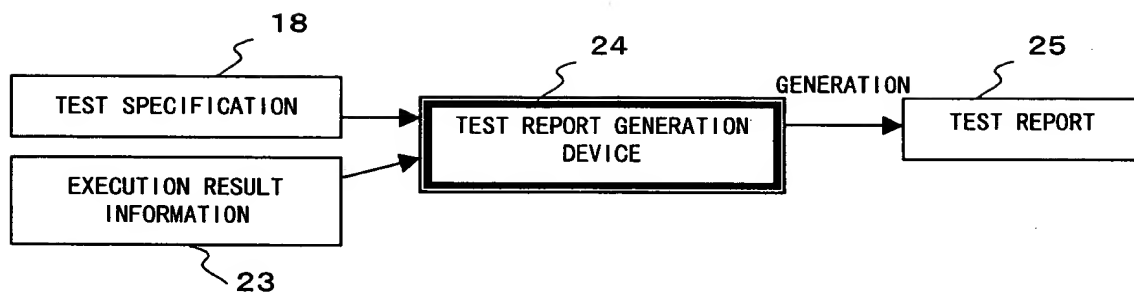


FIG. 6

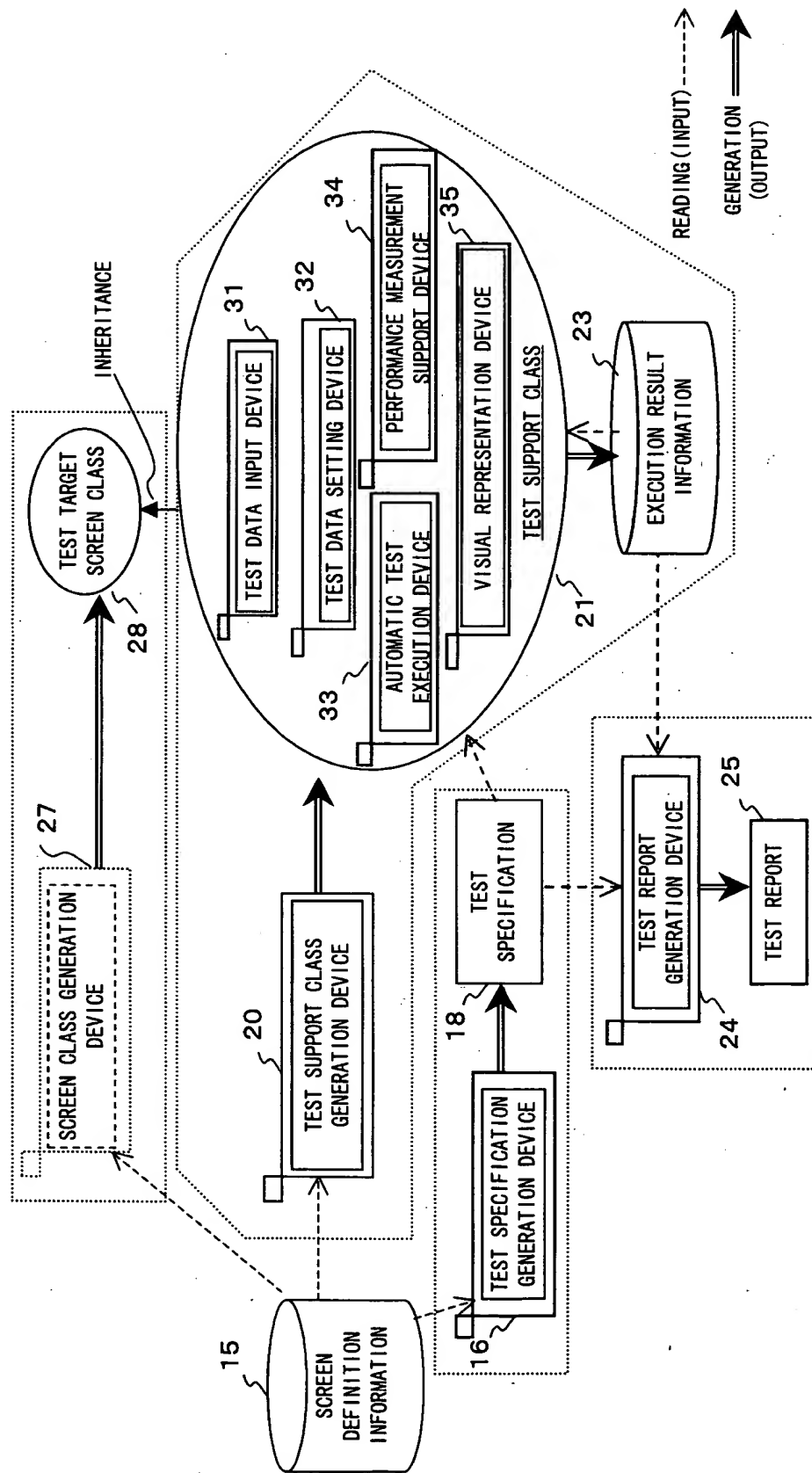


FIG. 7

000000 031304

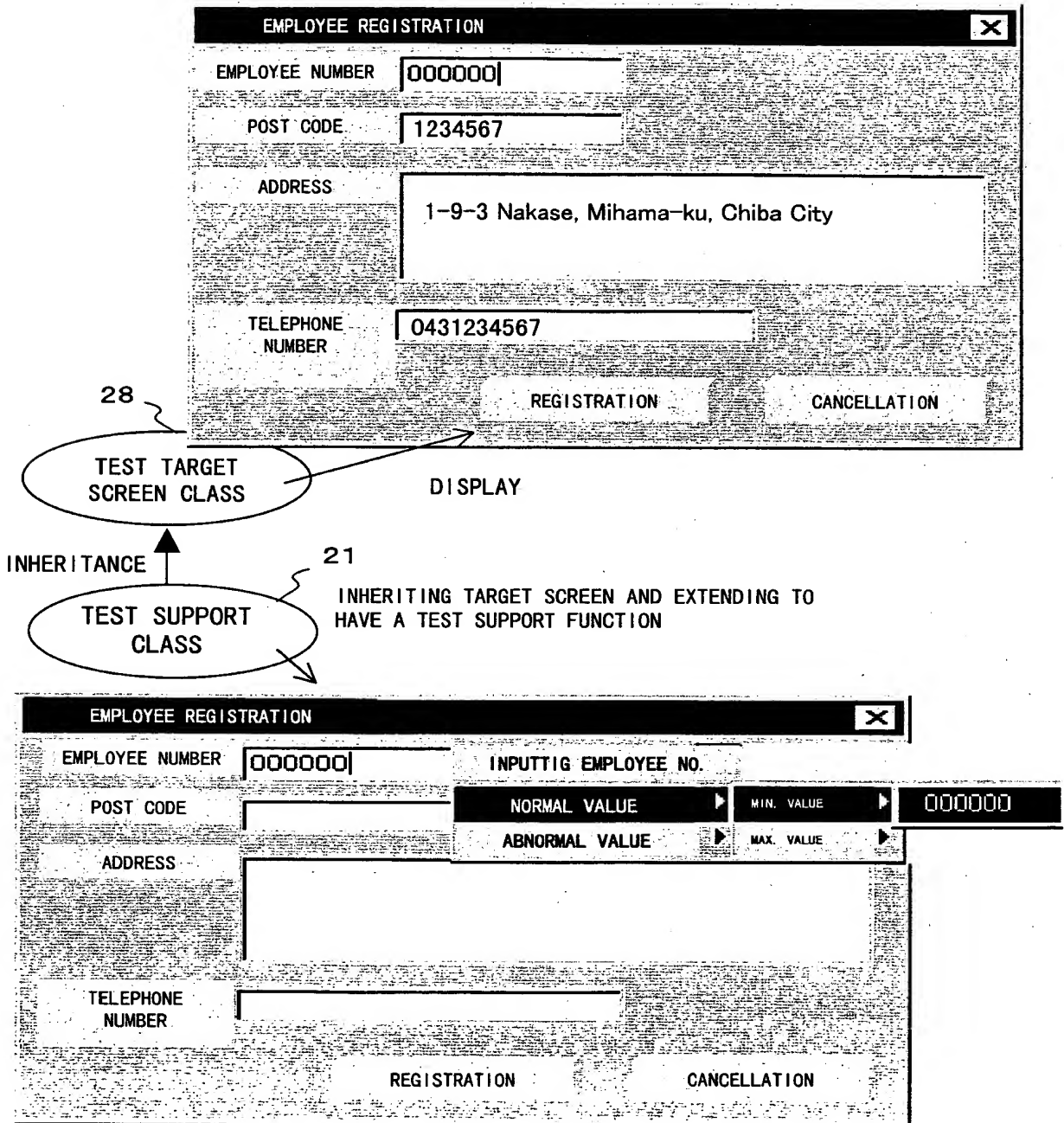


FIG. 8

TESTED" 99240800

16

EMPLOYEE REGISTRATION
SCREEN DEFINITION

NAME OF SCREEN : EMPLOYEE REGISTRATION jyugyo in Toroku
NAME OF SAMPLE SCREEN : DB REGISTRATION TYPE / DB toroku Master
SCREEN SIZE : 600 x 100

TEST SPECIFICATION
GENERATION DEVICE

NAME OF ITEM	NAME OF VARIABLE	TYPE	NUMBER OF DIGITS	MINIMUM VALUE	MAXIMUM VALUE
EMPLOYEE NUMBER	jyugyo in Bangou	NUMERAL	6	000000	999999
POST CODE	yubin Bangou	NUMERAL	7	0010001	9999999
ADDRESS	jyusyo	JAPANESE/ ALPHANU- MERIC	80		
TELEPHONE NUMBER	denwa Bangou	NUMERAL	10		
REGISTRATION	toroku Button	BUTTON			
CANCELLATION	cancel Button	BUTTON			

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (IN AN ITEM UNIT)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-1001-02		MAXIMUM VALUE	999999		
TEST-1001-03		MINIMUM VALUE-1	-1		
TEST-1001-04		MAXIMUM VALUE+1	1000000		
TEST-1001-05		INPUTTING ALPHABET ABCDE			
TEST-1001-06		JAPANESE	あ, い, う		
TEST-1002-01	POST CODE		0010001		
TEST-1002-02			9999999		
...		

GENERATING SCREEN

EMPLOYEE REGISTRATION

EMPLOYEE NUMBER000000

POST CODE

ADDRESS

TELEPHONE NUMBER

REGISTRATION

CANCELLATION

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (IN A SCREEN UNIT)

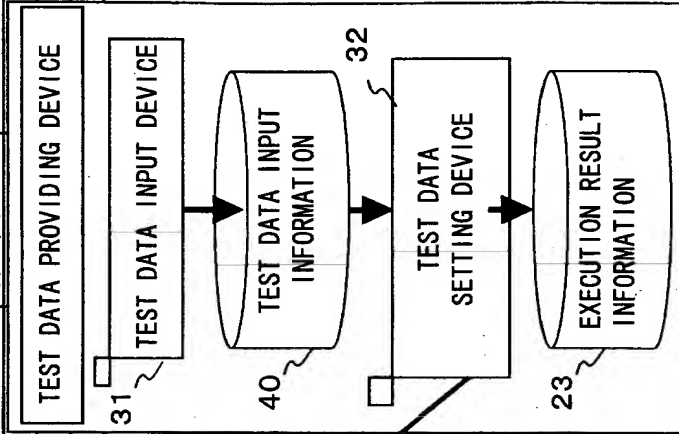
NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-G001	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-G001	POST CODE	NORMAL	1234567		
TEST-G001	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G001	TELEPHONE NUMBER	NORMAL	0431234567		
TEST-G002	EMPLOYEE NUMBER	MAXIMUM VALUE	9999999		
TEST-G002	POST CODE	NORMAL	1234567		
TEST-G002	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G002	TELEPHONE NUMBER	NORMAL	0431234567		
...		

FIG. 9

FOEFCO 89210869

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-1001-02		MAXIMUM VALUE	999999		
TEST-1001-03		MINIMUM VALUE-1	-1		
TEST-1001-04		MAXIMUM VALUE+1	1000000		
TEST-1001-05		INPUTTING ALPHABET	ABCDE		
TEST-1001-06		JAPANESE	あ い う		
TEST-1002-01	POST CODE				
TEST-1002-02					



EMPLOYEE REGISTRATION

INPUTTING EMPLOYEE NO.

NORMAL VALUE

MIN. VALUE

000000

ABNORMAL VALUE

MAX. VALUE

REGISTRATION

CANCELLATION

EMPLOYEE NUMBER

000000

POST CODE

ADDRESS

TELEPHONE NUMBER

FIG. 10

TOP SECRET 88240866

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-G001	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-G001	POST CODE	NORMAL	1234567		
TEST-G001	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G001	TELEPHONE NUMBER	NORMAL	0431234567		
TEST-G002	EMPLOYEE NUMBER	MAXIMUM VALUE	999999		
TEST-G002	POST CODE	NORMAL	Mihama-ku, Chiba-City		
TEST-G002	ADDRESS	NORMAL	0431234567		
TEST-G002	TELEPHONE NUMBER	NORMAL			
...		

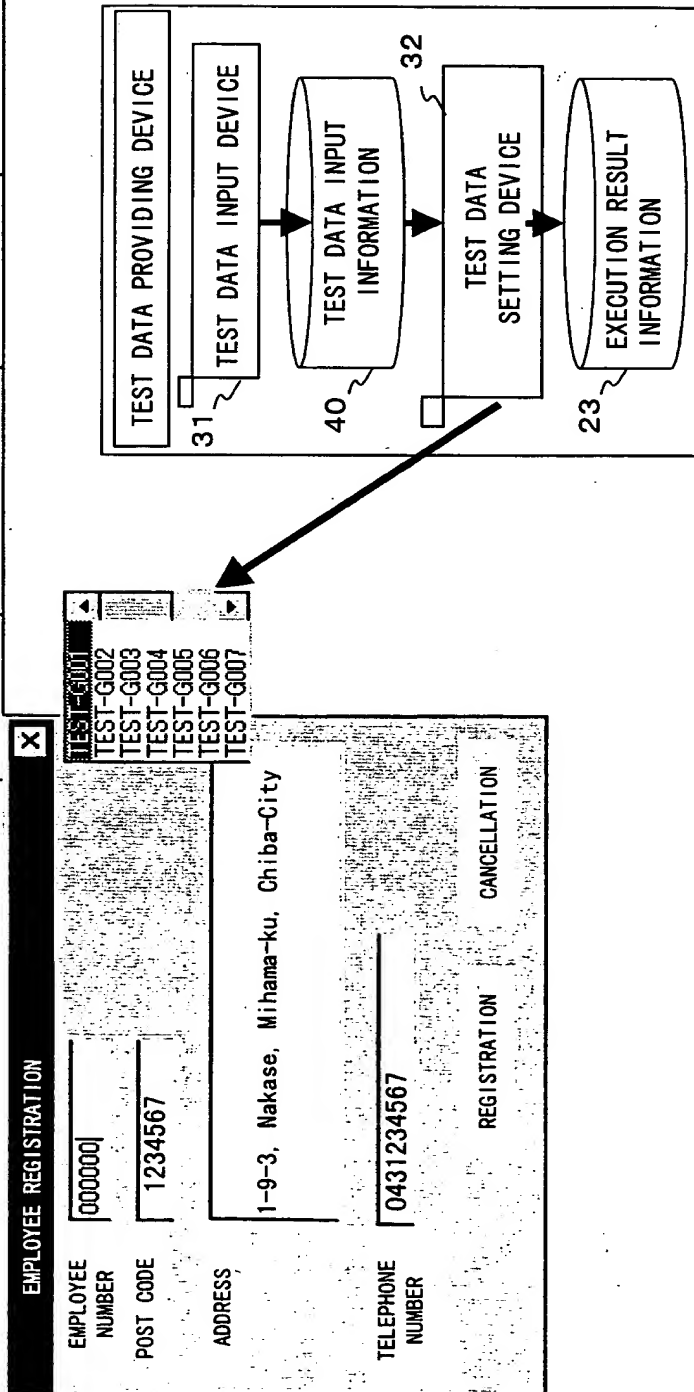


FIG. 11

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-G001	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-G001	POST CODE	NORMAL	1234567		
TEST-G001	ADDRESS	NORMAL	Mihama-ku, Chiba-City		
TEST-G001	TELEPHONE NUMBER	NORMAL	0431234567		
TEST-G002	EMPLOYEE NUMBER	MAXIMUM VALUE	999999		
TEST-G002	POST CODE	NORMAL	1234567		
TEST-G002	ADDRESS	NORMAL			
TEST-G002	TELEPHONE NUMBER				
...

EMPLOYEE REGISTRATION

EMPLOYEE NUMBER

000000

POST CODE

1234567

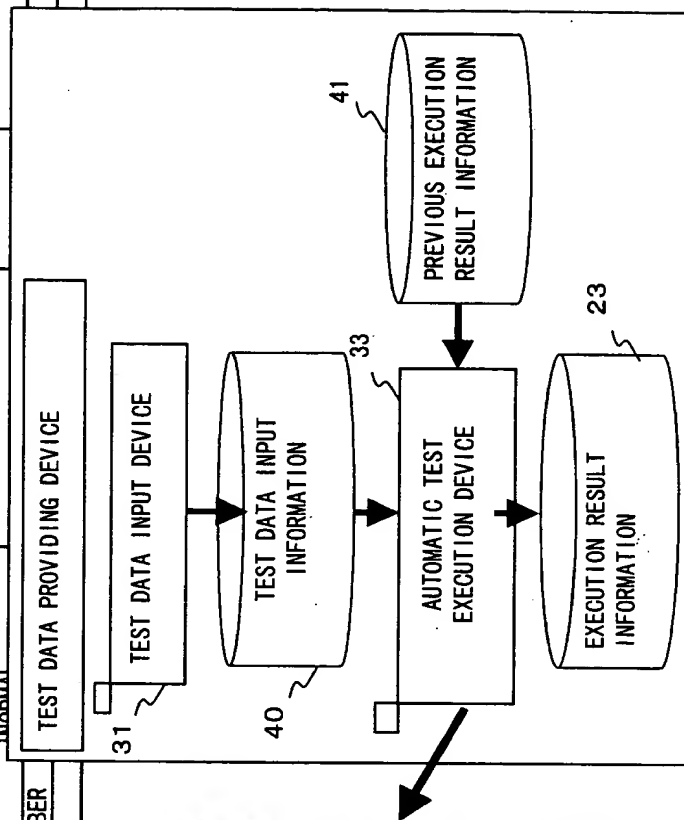
ADDRESS

1-9-3, Nakase, Mihama-ku, Chiba-City

TELEPHONE NUMBER

0431234567

STATUS: REGISTERED



AUTOMATIC TEST EXECUTION

TEST-G001

TEST-G002

TEST-G003

TEST-G004

TEST-G005

TEST-G006

TEST-G007

SUSPENDING

RESULT OF TEST-T003 IS DIFFERENT FROM PREVIOUS RESULT. "REGISTRATION"

FIG. 12

EMPLOYEE REGISTRATION			
EMPLOYEE NUMBER	000000	POST CODE	1234567
ADDRESS			
1-9-3, Nakase, Mihama-ku, Chiba-City			
TELEPHONE NUMBER	0431234567	STATUS	REGISTERED
		REGISTRATION	CANCELLATION

INPUT FIELD

- WHEN ERROR PROCESS IS ENTERED, BACKGROUND COLOR OF INPUT FIELD TURNS YELLOW.
- WHEN NORMAL PROCESS IS ENTERED, BACKGROUND COLOR OF INPUT FIELD TURNS BLUE.

BUTTON

- WHEN IT IS ONCE PRESSED, BACKGROUND COLOR OF THE BUTTON TURNS BLUE.

FIG. 13

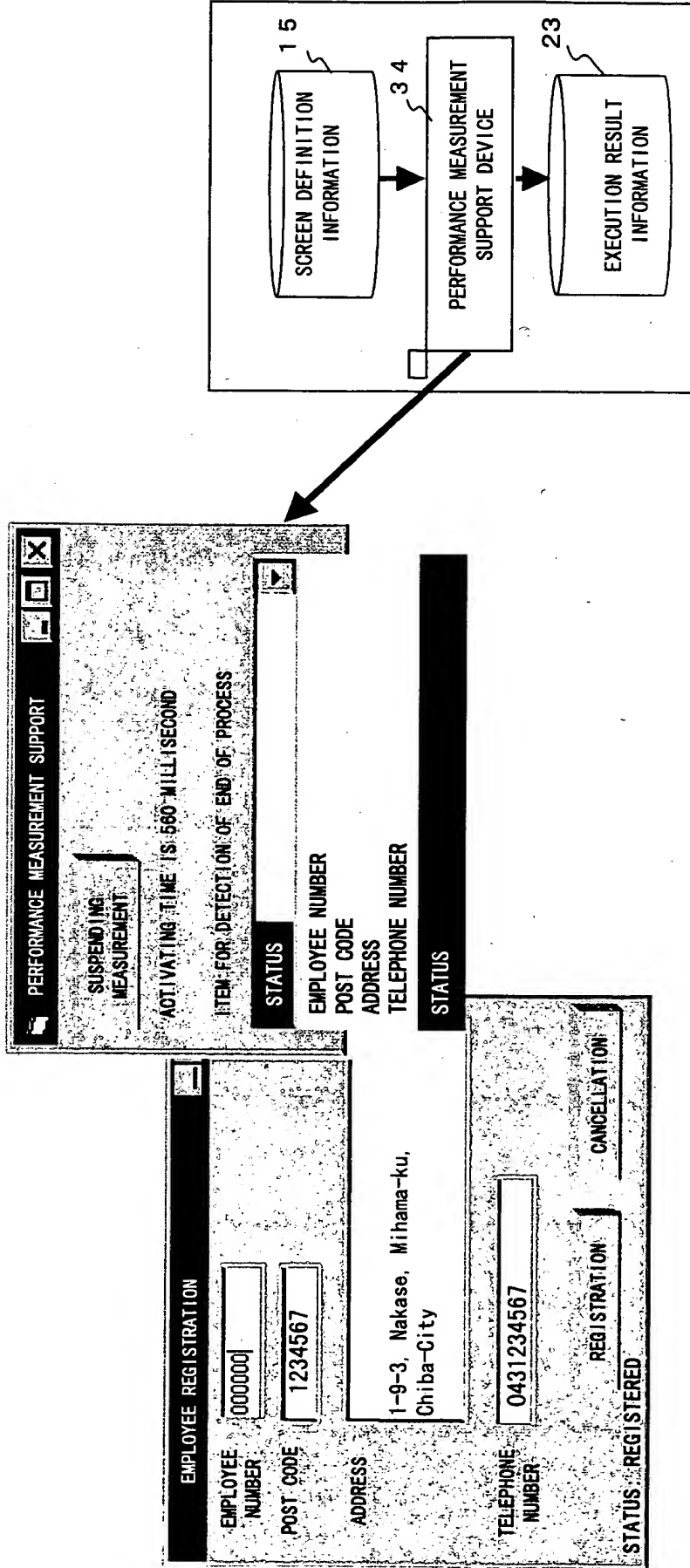


FIG. 14

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000	O	00/03/03
TEST-1001-02		MAXIMUM VALUE	999999	O	00/03/03
TEST-1001-03		MINIMUM VALUE-1	-1	x	00/03/03
TEST-1001-04		MAXIMUM VALUE+1	100000	x	
TEST-1001-05		INPUTTING ALPHABET	ABCDE	x	
TEST-1001-06		JAPANESE	あ, い, う	x	
TEST-1001-07				O	00/03/04
TEST-1001-08				O	00/03/04

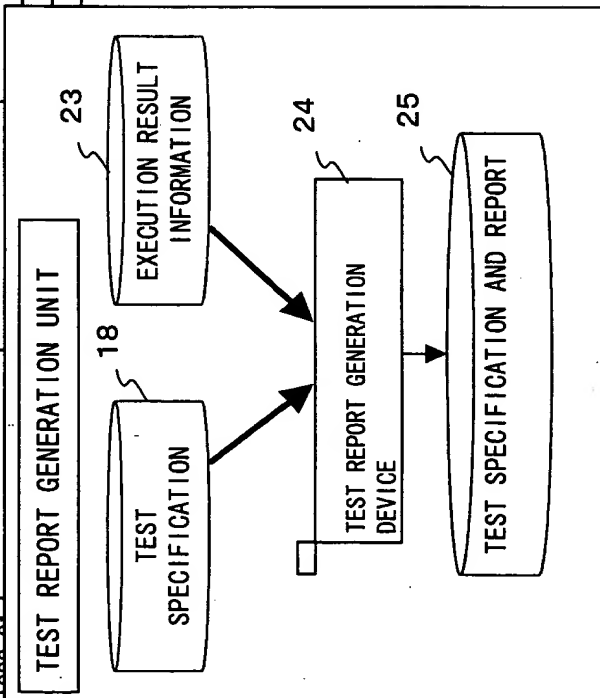


FIG. 15

EMPLOYEE REGISTRATION
SCREEN DEFINITION

NAME OF SCREEN : EMPLOYEE REGISTRATION JyusyoInTboku
SAMPLE NAME OF SCREEN : DB REGISTRATION TYPE / DBTbokuMaster
SCREEN SIZE : 600 x 400

NAME OF ITEM	NAME OF VARIABLE	TYPE	NUMBER OF DIGITS	MINIMUM VALUE	MAXIMUM VALUE
EMPLOYEE NUMBER	JyusyoInBangou	NUMERICAL	8	000000	999999
POST CODE	JyubInBangou	NUMERICAL	7	0010001	999999
ADDRESS	Jyusyo	JAPANESE/ALPHANUMERIC	80		
TELEPHONE NUMBER	dennaBangou	NUMERICAL	10		
REGISTRATION CANCELLATION	torokuButton cancelButton	BUTTON			

TEST SUPPORT CLASS GENERATION DEVICE

TEST SPECIFICATION GENERATION DEVICE

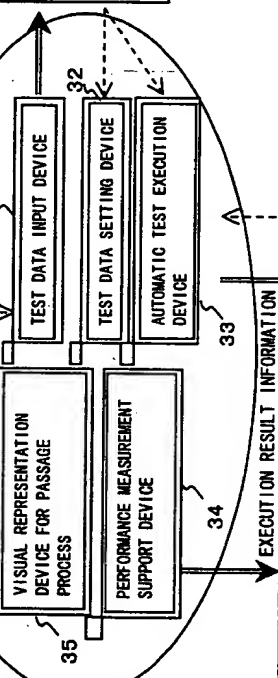
NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION RESULT	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000		
TEST-1001-02		MAXIMUM VALUE	999999		
TEST-1001-03		MINIMUM VALUE-1	-1		
TEST-1001-04		MAXIMUM VALUE+1	1000000		
TEST-1001-05		INPUTTING ALPHABET	ABCDE		
TEST-1001-06		JAPANESE	あ, い, う		
TEST-1002-01	POST CODE				
TEST-1002-02					

TEST DATA INPUT INFORMATION

ACTIVATING TIME
TEST-10001-01, EMPLOYEE NUMBER, MINIMUM VALUE, 000000,
TEST-10001-02, EMPLOYEE NUMBER, MAXIMUM VALUE, 999999,
TEST-10001-03, EMPLOYEE NUMBER, MINIMUM VALUE-1, -1,
...

CONVERTING FROM HUMAN-READABLE TEST SPECIFICATION FORMAT TO TEST DATA SETTING DEVICE READABLE FORMAT (CSV FILE, ETC.)

TEST SUPPORT CLASS



EXECUTION RESULT INFORMATION

ACTIVATING TIME, 2430.
TEST-10001-01, EMPLOYEE NUMBER, MINIMUM VALUE, 000000, 00/03/03, 30
TEST-10001-02, EMPLOYEE NUMBER, MAXIMUM VALUE, 999999, 00/03/03, 27
TEST-10001-03, EMPLOYEE NUMBER, MINIMUM VALUE-1, -1, 00/03/03, 28

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	EXECUTION	EXECUTION DATE
TEST-1001-01	EMPLOYEE NUMBER	MINIMUM VALUE	000000	O	00/03/03
TEST-1001-02		MAXIMUM VALUE	999999	O	00/03/03
TEST-1001-03		MINIMUM VALUE-1	-1	x	00/03/03
TEST-1001-04		MAXIMUM VALUE+1	1000000	x	00/03/03
TEST-1001-05		INPUTTING ALPHABET	ABCDE	x	
TEST-1001-06		JAPANESE	あ, い, う	x	
TEST-1002-01	POST CODE			O	00/03/04
TEST-1002-02				O	00/03/04

TEST REPORT GENERATION DEVICE

EMPLOYEE REGISTRATION SCREEN

```

torokuButton_action() {
    TEST SUPPORT A
        driverA = new TEST SUPPORT
        A(this);
    driverA.MEASUREMENT STARTING
    METHOD();
    server.torokuButton_action();
    driverA.MEASUREMENT COMPLETING
    METHOD();
}

```

'KNOW'

TEST SUPPORT A CLASS

```
+ MEASUREMENT STARTING  
METHOD ( )  
+ MEASUREMENT  
COMPLETING METHOD ( )
```

FIG. 17

FIG. 18

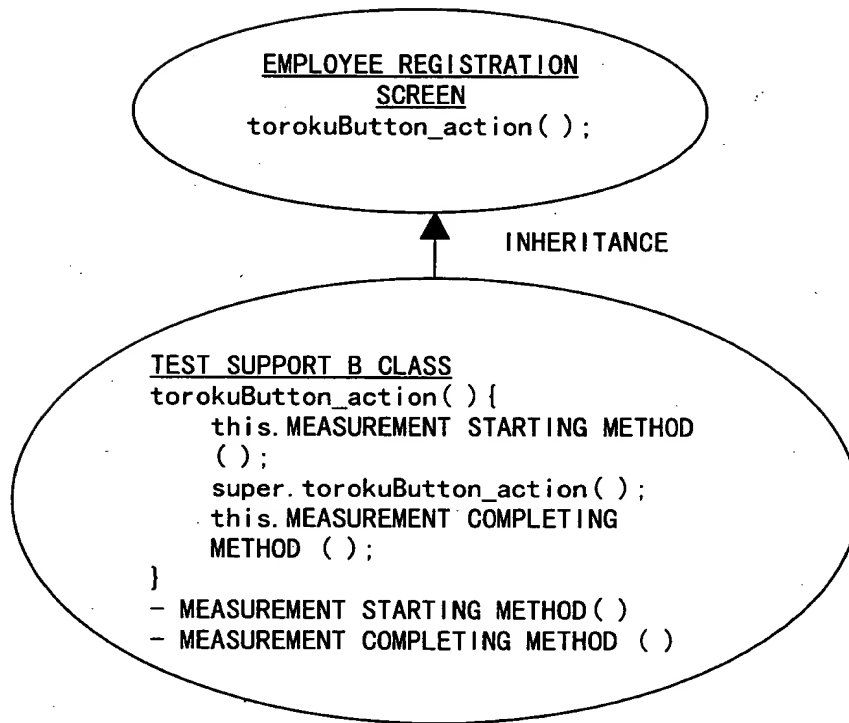


FIG. 18

```

graph TD
    START([START]) --> S1[READING SCREEN  
DEFINITION INFORMATION]
    S1 --> S2{ALL LINES  
READ?}
    S2 -- YES --> S4[GENERATING AND  
WRITING TEST  
SPECIFICATION IN  
SCREEN UNIT]
    S2 -- NO --> S3[GENERATING AND  
WRITING TEST  
SPECIFICATION IN  
ITEM UNIT]
    S3 --> S1
    S4 --> END([END])
  
```

FIG. 19

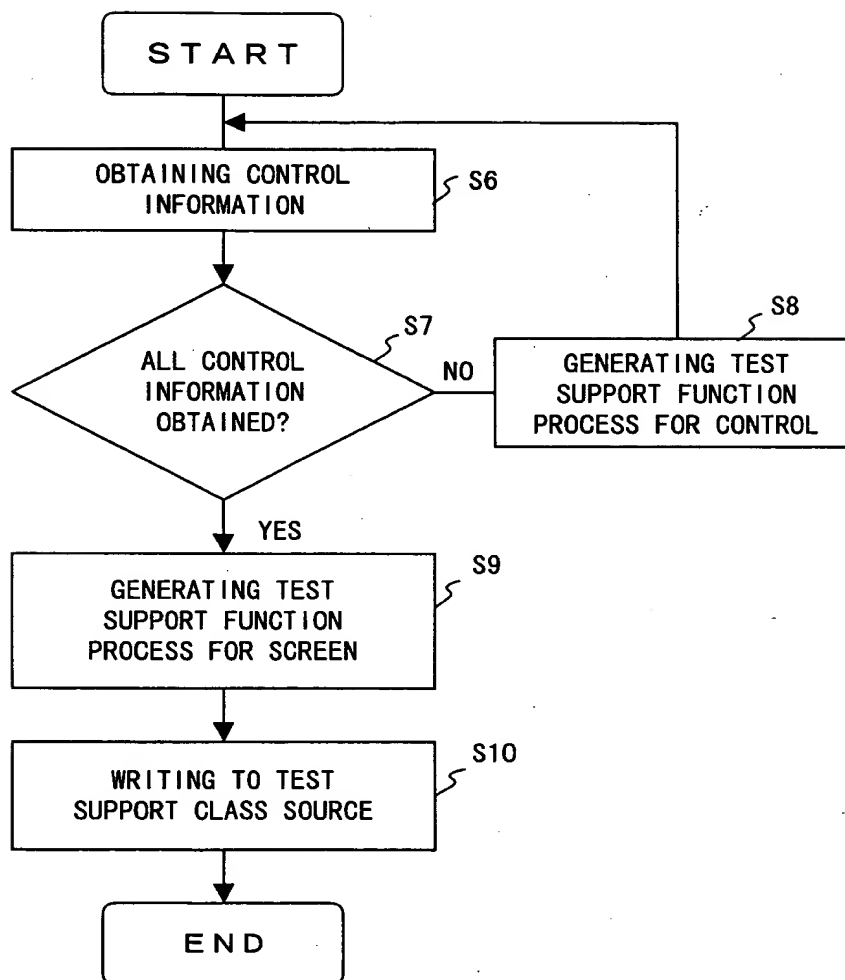
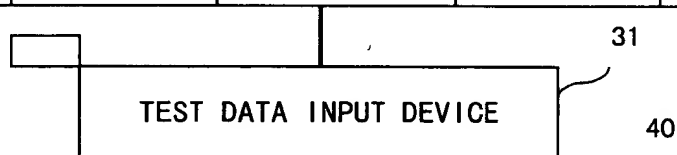


FIG. 20

EMPLOYEE REGISTRATION SCREEN TEST SPECIFICATION (EMPLOYEE NUMBER)

18

NAME OF TEST CASE	TEST ITEM	CONTENTS OF TEST	TEST DATA	TEST RESULT
TEST 001	NORMAL VALUE	MINIMUM VALUE	000000	
		MAXIMUM VALUE	999999	
	ABNORMAL VALUE	MINIMUM VALUE-1	-1	
		MAXIMUM VALUE+1	1000000	
		INPUTTING ALPHABET	ABCDE	
		JAPANESE	あ, い, う	



TEST DATA INPUT INFORMATION				
SCREEN	INPUT	FIRST LEVEL DISPLAY	SECOND LEVEL DISPLAY	TEST VALUE
EMP.	EMPLOYEE NUM.	NORMAL VALUE	MINIMUM VALUE	000000
EMP.	EMPLOYEE NUM.	NORMAL VALUE	MAXIMUM VALUE	999999
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	MINIMUM VALUE-1	-1
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	MAXIMUM VALUE+1	1000000
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	ALPHABET	ABCDE
EMP.	EMPLOYEE NUM.	ABNORMAL VALUE	JAPANESE	あ, い, う

FIG. 21

```

graph TD
    START([START]) --> S12[READING TEST SPECIFICATION]
    S12 --> S13{ALL LINES READ?}
    S13 -- YES --> END([END])
    S13 -- NO --> S14[WRITING TEST DATA INPUT INFORMATION]
    S14 --> S12

```

FIG. 22

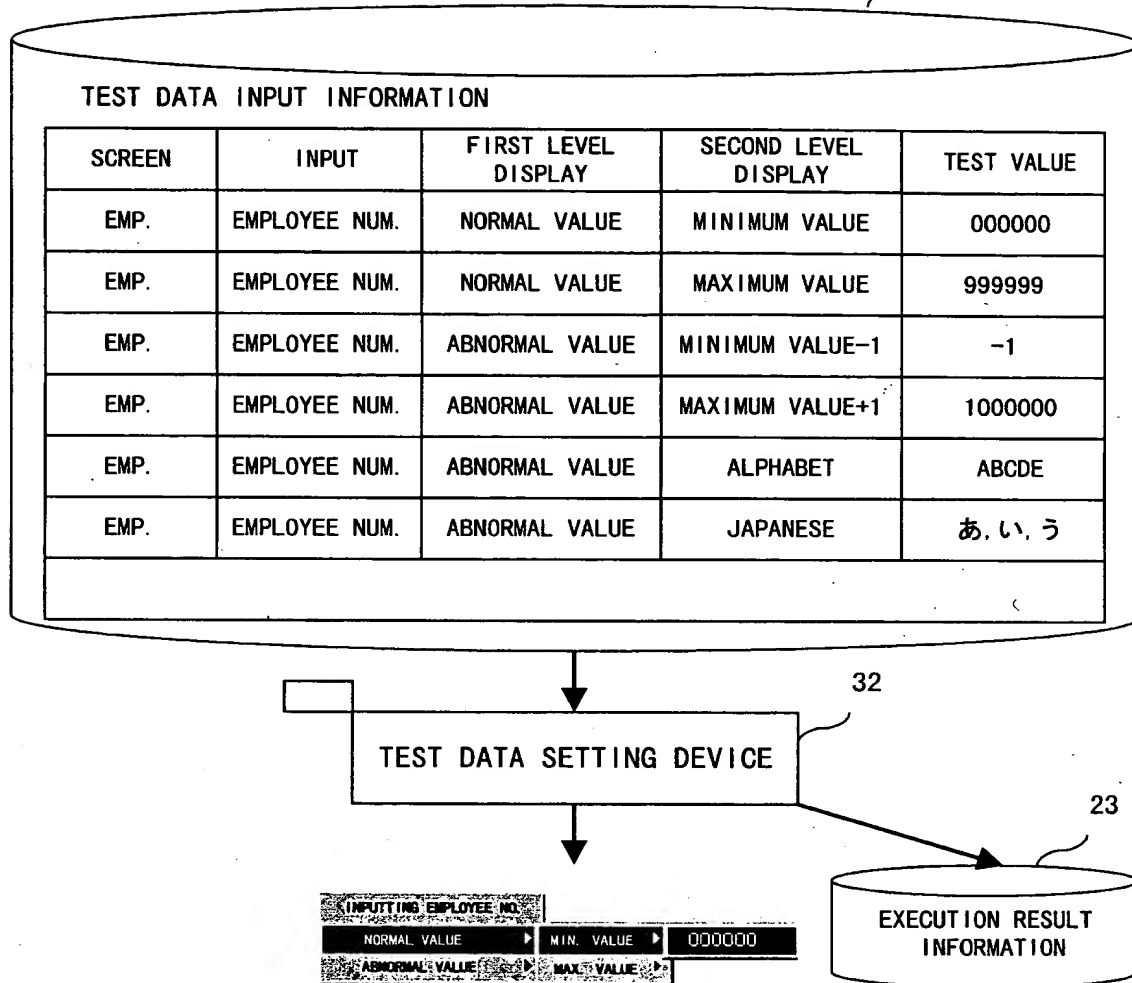
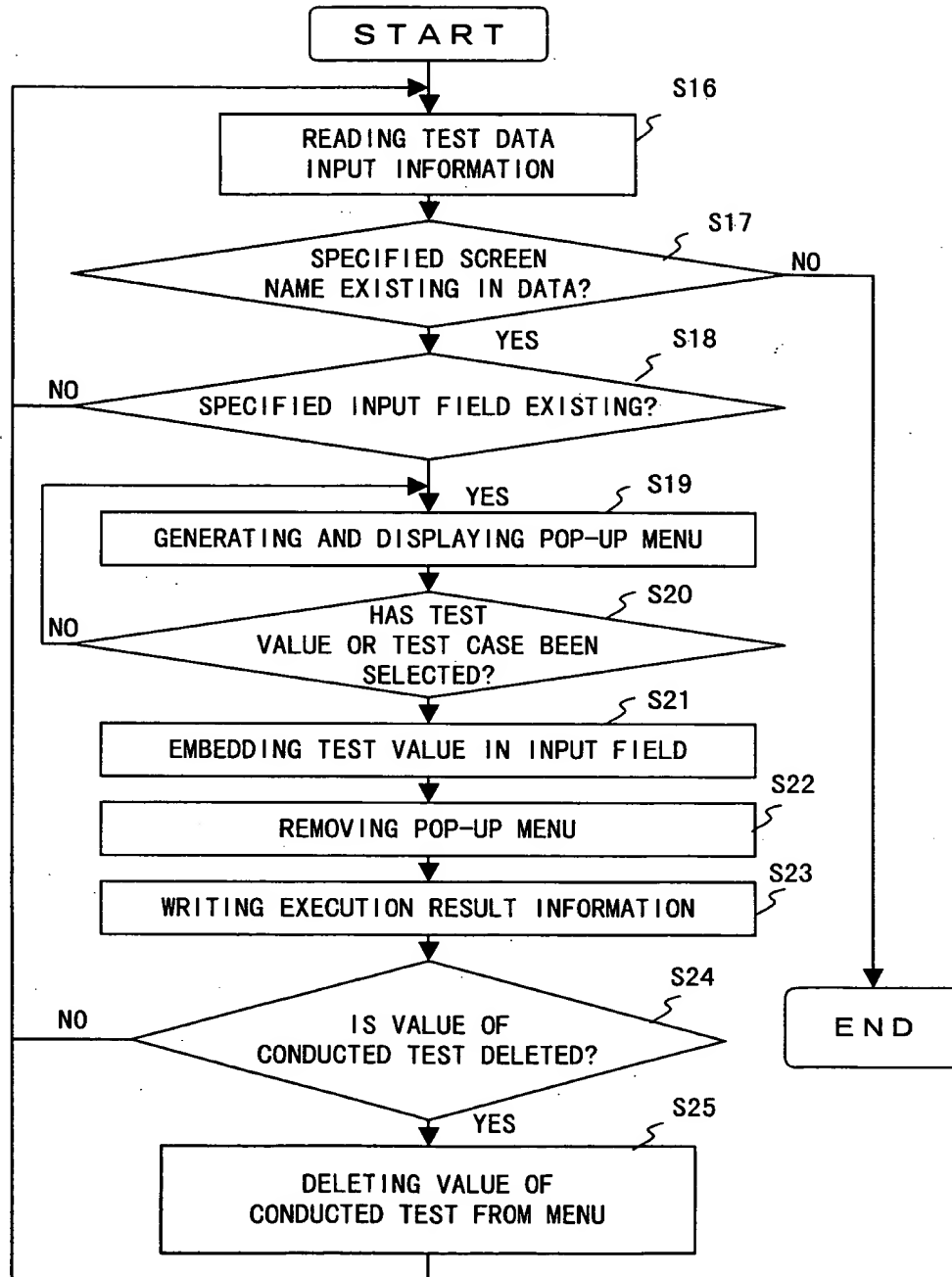


FIG. 23

[illegible]

F I G. 24


```
graph TD; 40[(TEST DATA INPUT INFORMATION)] --> 33[AUTOMATIC TEST EXECUTION DEVICE]; 41[(EXECUTION RESULT INFORMATION FOR THE PREVIOUS TEST)] --> 33; 33 --> 23[(EXECUTION RESULT INFORMATION)];
```

The flowchart illustrates the process of automatic test execution. It begins with two input sources: 'TEST DATA INPUT INFORMATION' (labeled 40) and 'EXECUTION RESULT INFORMATION FOR THE PREVIOUS TEST' (labeled 41). These inputs are processed by the 'AUTOMATIC TEST EXECUTION DEVICE' (labeled 33). The output of this device is 'EXECUTION RESULT INFORMATION' (labeled 23).

ACTIVATING TIME	
TEST-10001-01, EMPLOYEE NUMBER, MINIMUM VALUE, 000000, 000000, 00/03/03,	
TEST-10001-02, EMPLOYEE NUMBER, MAXIMUM VALUE, 999999, 999999, 00/03/03,	
TEST-10001-03, EMPLOYEE NUMBER, MINIMUM VALUE-1, -1, -0, 00/03/03,	
...	

FIG. 25

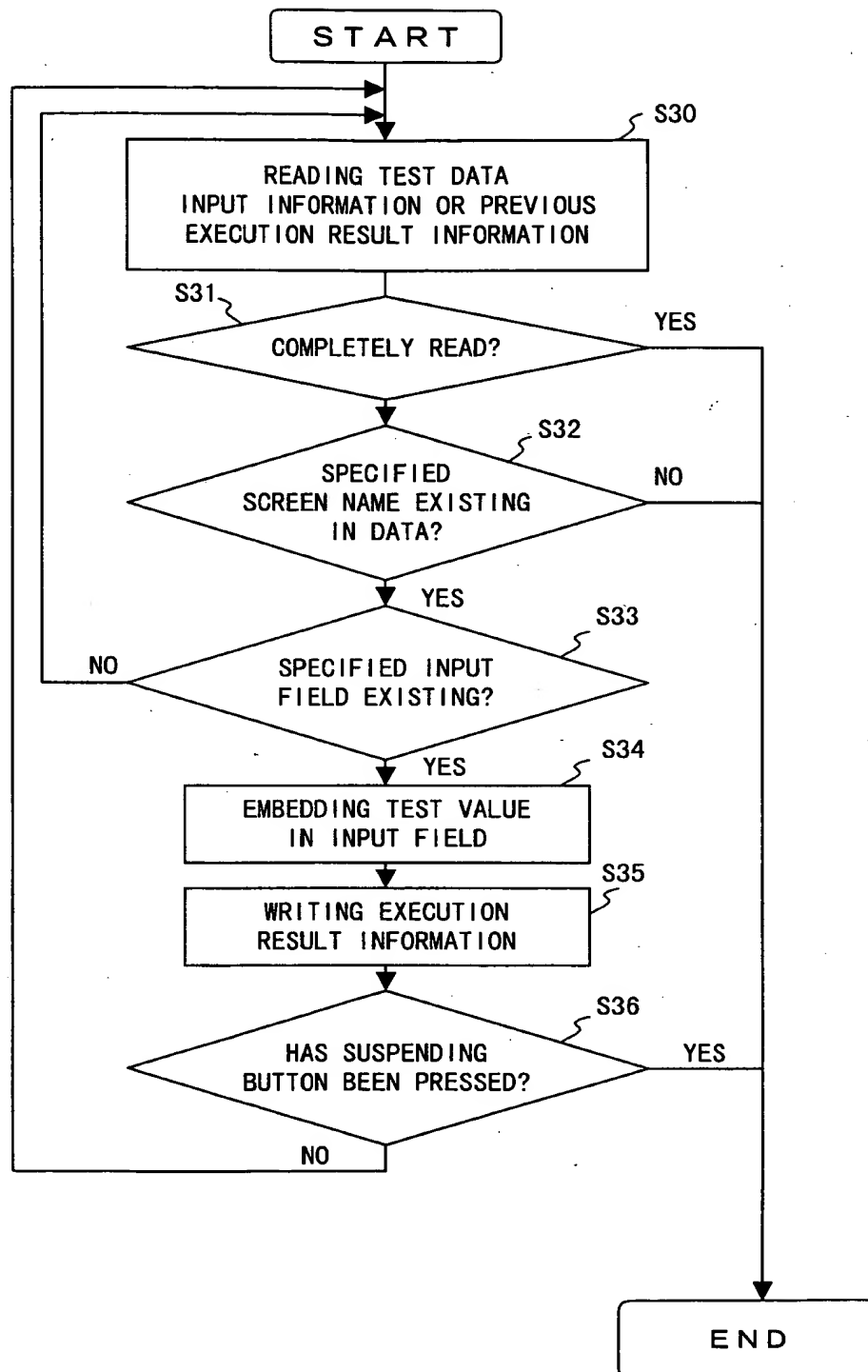
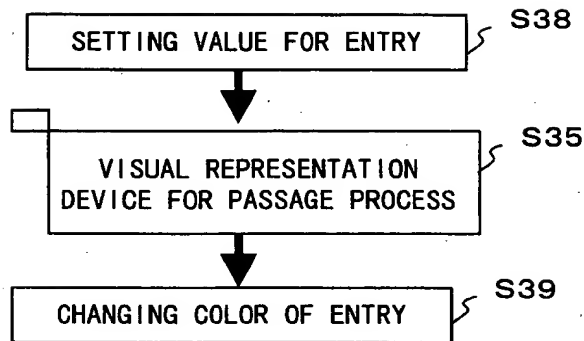
[illegible]

FIG. 26



EXAMPLE) REPRESENTING BACKGROUND
IN BLUE AND CHARACTERS
IN WHITE FOR NORMAL PROCESS

EXAMPLE) REPRESENTING BACKGROUND
IN YELLOW AND CHARACTERS
IN BLACK FOR ABNORMAL

EMPLOYEE REGISTRATION	
EMPLOYEE NUMBER	100000
POST CODE	1234567
ADDRESS	1-9-3, Nakase, Mihama-ku, Chiba-City
TELEPHONE NUMBER	0431234567
REGISTRATION	
STATUS: REGISTERED	

EMPLOYEE REGISTRATION	
EMPLOYEE NUMBER	9999999
POST CODE	1234567
ADDRESS	1-9-3, Nakase, Mihama-ku, Chiba-City
TELEPHONE NUMBER	0431234567
REGISTRATION CANCELLATION	
STATUS: EMPLOYEE NUMBER ERROR	

FIG. 27

0904258-031304

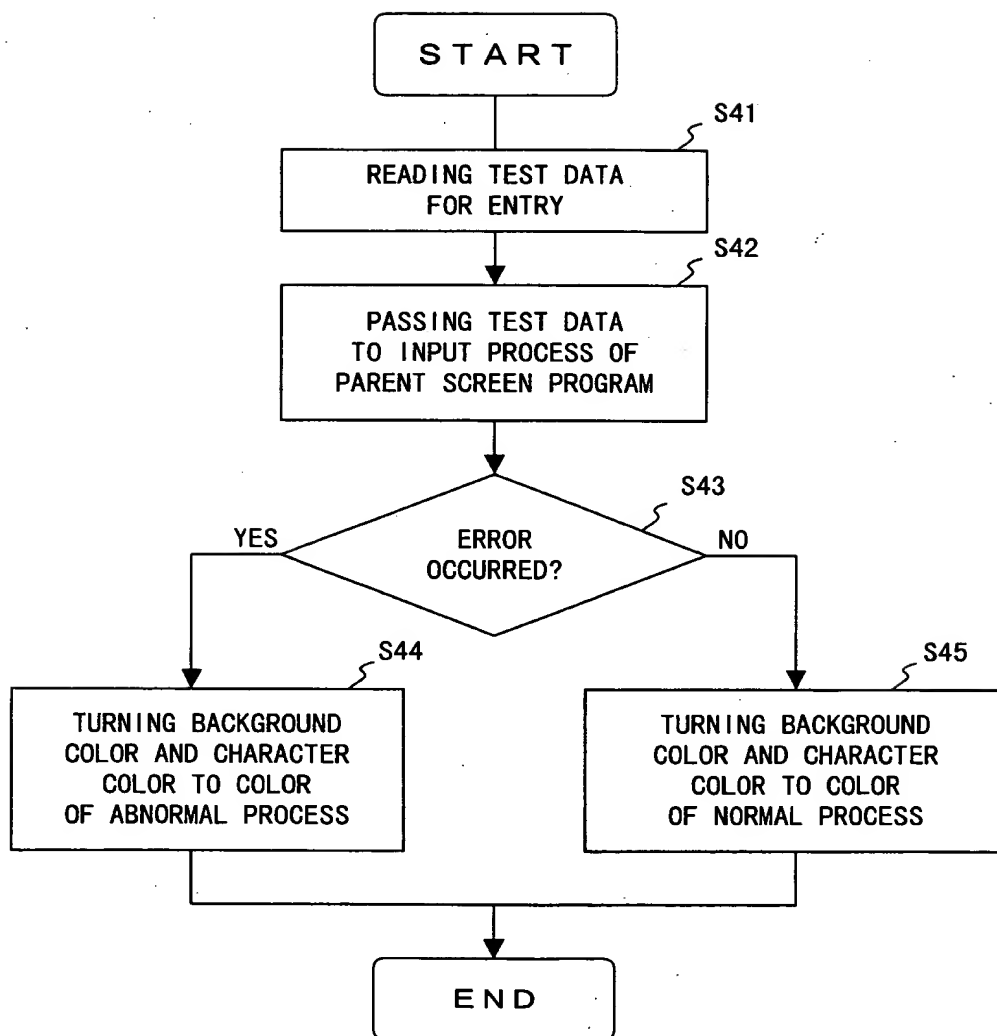


FIG. 28

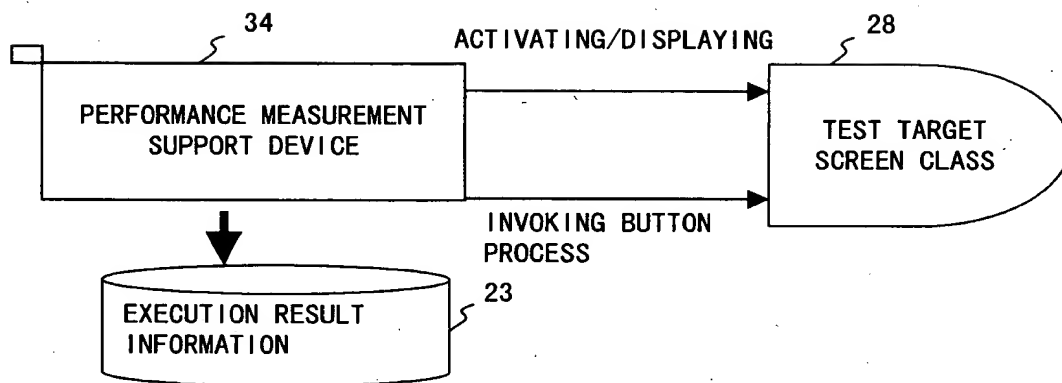


FIG. 29

EMPLOYEE REGISTRATION

EMPLOYEE NUMBER: 000000

POST CODE: 1234567

ADDRESS: 1-9-3, Nakase, Mihama-ku, Chiba-City

TELEPHONE NUMBER: 0431234567

STATUS: REGISTERED

REGISTRATION CANCELLATION

CUSTOMIZING TEST SUPPORT FUNCTION

CHANGING FUNCTION MEASURING METHOD
 SETTING MEASUREMENT UPPER LIMIT TIME
 CHANGING MONITOR ITEM

PERFORMANCE MEASUREMENT SUPPORT

SUSPENDING MEASUREMENT

ACTIVATING TIME IS 560 MILLISECOND

ITEM FOR DETECTION OF PROCESS TERMINATION

STATUS

EMPLOYEE NUMBER

POST CODE

ADDRESS

TELEPHONE NUMBER

STATUS

F I G . 3 1

```

graph TD
    START([START]) --> S65[READING TEST SPECIFICATION]
    S65 --> S66{ALL LINES READ?}
    S66 -- YES --> END([END])
    S66 -- NO --> S67[READING TEST RESULT RECORD]
    S67 --> S68{ALL LINES READ?}
    S68 -- YES --> END
    S68 -- NO --> S69{TEST CASE MATCHING?}
    S69 -- YES --> S70[ENTERING EXECUTION RESULT AND EXECUTION DATE]
    S69 -- NO --> S66
    S70 --> S66
  
```

FIG. 32

EMPLOYEE REGISTRATION		INPUTTIG EMPLOYEE NO.	
EMPLOYEE NUMBER	000000	NORMAL VALUE	MIN. VALUE
POST CODE		ABNORMAL VALUE	MAX. VALUE
ADDRESS			
TELEPHONE NUMBER			
REGISTRATION		CANCELLATION	

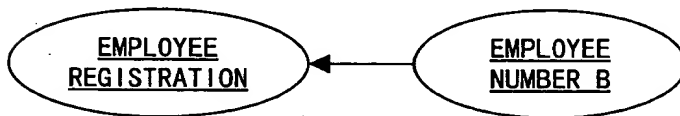


FIG. 33

EMPLOYEE REGISTRATION		X
EMPLOYEE NUMBER	000000	
POST CODE	1234567	
ADDRESS	1-9-3, Nakase, Mihama-ku, Chiba-City	
TELEPHONE NUMBER	0431234567	
REGISTRATION		CANCELLATION

**EMPLOYEE
REGISTRATION**

FIG. 34.

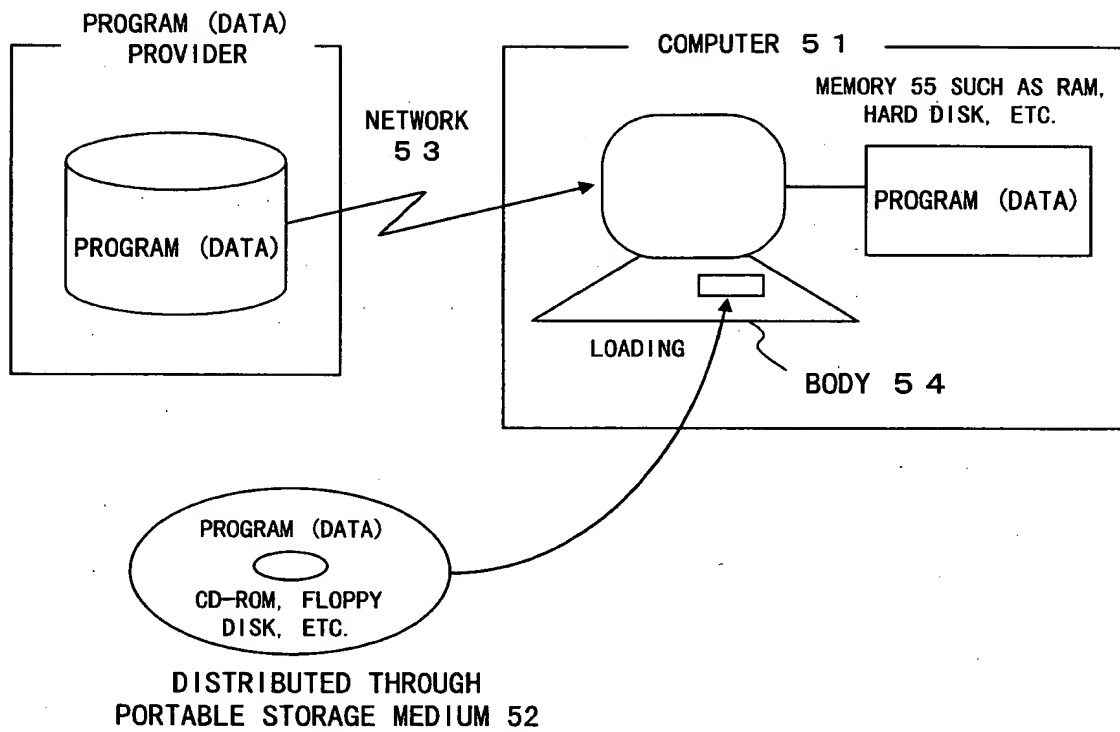


FIG. 35